Additions to the Flora of Singapore and New Localities in Singapore for some Plants thought to be Extinct—Part II

By JAMES SINCLAIR

THIS PAPER is a continuation of a previous one with the same title, published in the Gardens' Bulletin, Singapore, Vol. 14, Part 1, August 1953. In the present one, eighteen species are listed as new to Singapore. Five of these are new to Malaya as well, namely:—*Halorrhagis chinensis*, *Stemodia verticillata*, *Cymodocea isoetifolia*, *C. rotundata* and *C. serrulata. Halorrhagis* is very probably native, *Stemodia* is introduced and the three *Cymodocea* species are native. Of the eighteen, twelve are at least native and the other six introduced.

Singapore island has been well explored botanically for many years and it is somewhat surprising that we should still find twelve more native species, seven of which are forest plants. It is not surprising to record six introduced plants and more can be expected to arrive in future years with the ever-extending cultivation.

On the other hand many of our native plants must disappear, unfortunately, as more and more land is used for building houses, aerodromes, military barracks, quarries and factories. A considerable area has been cleared of vegetation and built on since Part I of this paper was written. It is gratifying, however, that the few plants, mentioned in the second part of this paper are not yet extinct and though rare, are still part of our local botanical heritage.

A new name, *Ardisia rudis* J. Sinclair, is given for the Malayan *A. ferruginea* Mez, there being already another plant called *A. ferruginea* H. B. & K.

I—New Records for Singapore

Shorea collina Ridley in Agric. Bull. Straits & Fed. Malay States 9, 5 (1910) 182.

Kruing Path, Bukit Timah Forest Reserve, *Sinclair S.F.N. 39650,* 27th May, 1953.

A young tree, sterile, determined by J. Wyatt-Smith, Forest Reserve Institute, Kepong. Not previously recorded for Singapore but known from Trengganu, Pahang and Johore.

Waltheria indica L. Sp. Pl. (1753) 673.

Sandy seashore by path, Changi, *Sinclair S.F.N. 40016*, 5th September, 1953. Native. Very rare.

Not previously recorded from Singapore. In Malaya this plant grows on sandy sea coasts so it is not surprising that it should occur at Changi.

Dapania scandens Stapf in Hooker's Icon. Pl. (1891) T. 1997.

Kruing Path, Bukit Timah Forest Reserve, *Sinclair S.F.N. 39648*, 27th May, 1953; 15th mile Jurong, *Corner s.n.*, November 1932.

Not previously recorded from Singapore. The plant is probably extinct now in its Jurong locality where the forest has been cleared. It still flourishes in Bukit Timah but is very rare. The Singapore Herbarium contains specimens collected in Kelantan, Perak, Trengganu, Selangor, Pahang and Johore.

Desmodium laburnifolium DC. Prodr. 2 (1825) 337.

In coco-nut plantations between Tuas and Tanjong Gul, *Sinclair 7438*, 21st May, 1953; Kampong Melayu, Jalan Eunos, *Corner s.n.*, July 1944.

Not native. The only other record for Malaya is *Ridley 15434*, Kota Tinggi, Johore.

Pygeum griffithii Hk. f., F.B.I. 2 (1878) 322.

Pipeline, Seletar Forest, *Sinclair S.F.N. 39615*, 9th May, 1953; Nee Soon Rifle Range, Seletar Forest, *Sinclair S.F.N. 40263*, 23rd April, 1954.

Not previously recorded for Singapore but is found in Johore, Malacca and Selangor.

P. lanceolatum Hk. f., F.B.I. 2 (1878) 319.

Seletar Forest beyond No. 2 rifle range, *Sinclair S.F.N. 40272*, 1st May, 1954.

Not previously recorded for Singapore although there is a specimen, *Cantley*, Singapore, without date, locality or number in Herb. Sing. The plant is widely distributed throughout lowland forests in Malaya, so again it is not surprising to find it in Singapore.

Halorrhagis chinensis (Lour.) Merr. in Trans. Am. Phil. Soc. n.s. 24 (1935) 290.

Synonym: H. scabra (Koenig) Benth. var. *elongata* Schindl. in Engl. Pflanzenreich 23 (1905) 28.

Sri Taman, opposite Pulau Sarimbun, *Sinclair S.F.N. 40276*, 4th May, 1954.

First record for Singapore and for Malaya. Professor C. G. G. van Steenis, who saw my specimens, *S.F.N. 40276*, thinks that this plant is native and not introduced. It is a small herb, easily overlooked and hence rarely collected. It occurs throughout Malaysia, though the localities are wide apart. It should be looked for in other parts of Malaya.

Ardisia rudis J. Sinclair, **nom. nov.**

Synonym: A. ferruginea Mez in Pflanzenreich 4, 236 (1902) 108.

Swamp forest in deep shade. Off road leading to No. 1 rifle range, Nee Soon, Seletar Forest, *Sinclair S.F.N. 40278*, 8th May, 1954. Apparently rare.

Not previously recorded for Singapore. It has been found in several places in Johore in swampy forest. The name *A. ferruginea* cannot be used on account of the earlier *A. ferruginea* H. B. & K., Nov. Gen. et Sp. 3 (1818) 244.

Lindernia sessiliflora (Benth.) Wettst. in Engl. & Prantl, Naturl. Pflanzenfam. 4, 3b (1891) 79.

Government House Domain, *G. H. Addison s.n.*, 1st July, 1949; Botanic Gardens, *M. R. Henderson s.n.*, 12th December, 1940· *J. W. Purseglove 4022*, 7th February, 1955.

Not previously recorded for Singapore and not in Ridley's Flora. It is mentioned by Henderson as a weed in grass in gardens, Malayan Wild Flowers 2 (1950) 333 but no localities are given. Since the above specimens were collected, it is now widespread over the island. There is one record in Herb. Sing. from Selangor and doubtless it can now be found throughout Malaya.

Stemodia verticillata (Mill.) Boldingh, Zakfl. Landbouwstr. Java (1916) 165.

Nursery, Botanic Gardens, *G. H. Addison s.n.*, 24th January, 1941; Assistant Botanist's Quarters, *C. X. Furtado*, 3rd June, 1942; Director's Garden, Botanic Gardens, *J. W. Purseglove 4023*, 7th February, 1955.

A weed in the Botanic Gardens, new to Singapore and Malaya. It has been known for some time but the records have not been published and it is not mentioned in Ridley's Flora.

Andrographis paniculata Nees, Wall. Pl. As. Rar. 3 (1832) 116.

Private garden Changi Road, *B. K. Sahib s.n.,* 7th June, 1926; Pulau Damar Laut, *Sinclair*, 1st November, 1948.

Also a weed in the Botanic Gardens, but not previously recorded from Singapore. There are specimens from Penang, Province Wellesley and Perak in Herb. Sing.

Litsea gracilipes Hk. f., F.B.I. 5 (1886) 159.

Path leading to rifle range, Nee Soon, Seletar Forest, *Sinclair S.F.N. 40274*, 1st May, 1954.

No previous record for Singapore but has been found in peat or fresh water swamp forest in Perak, Selangor, Malacca, Pahang and Johore.

Quercus sundaica Bl. in Verh. Bat. Genoots. 9 (1825) 216.

11½ miles Mandai Road, *Sinclair S.F.N. 40203*, 20th February, 1954. Sterile. One tree seen.

First record for Singapore although widely distributed in Malaya and extending to Java, Sumatra and Borneo.

Cymodocea isoetifolia Aschers. in Sitzb. Ges. Naturf. Fr. Berlin (1867) 3.

Sandy, muddy substratum near low water, Tanah Merah Besar, *Sinclair S.F.N. 39509*, 14th March, 1953 and *S.F.N. 40537*, 6th March, 1955.

New record for Singapore and Malaya. Determined by M. Jacobs, Leiden. Growing in association with *Cymodocea serrulata*, *C. rotundata*, *Thalassia hemprichii* and *Halophila spinulosa*. **Fig. 1C** and **D.**

C. rotundata (Ehrb. & Hempr.) Aschers. & Schweinf. in Sitzb. Ges. Naturf. Fr. Berl. (1870) 84.

Seashore below half tide, Telok Paku, *Sinclair S.F.N. 40527*, 17th February, 1955 and seen at Tanah Merah Besar, 6th March, 1955. At Telok Paku in association with *Thalassia hemprichii* and *Enhalus acoroides*.

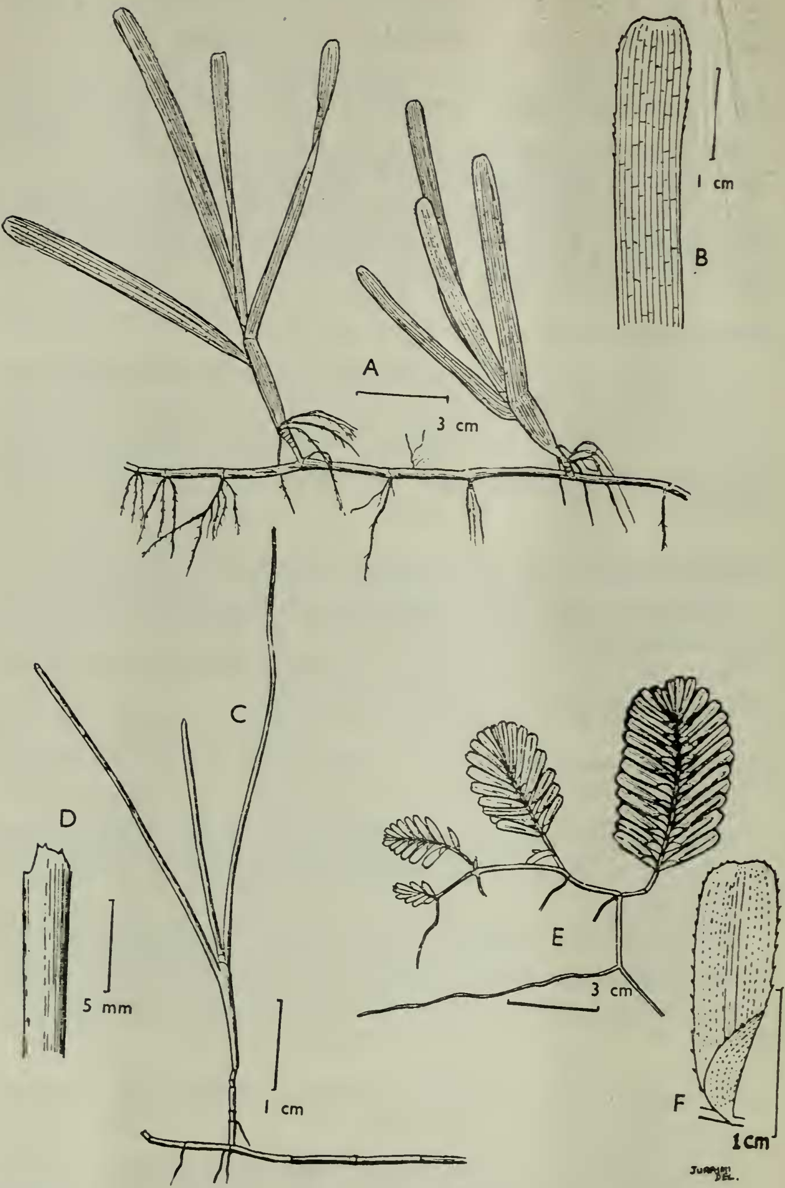

Fig. 1. A, *Cymodocea serrulata* leafy shoot. B, Leaf tip magnified. C, *Cymodocea isoetifolia*, leafy shoot. D, Leaf tip magnified. E, *Halophila spinulosa*, leafy shoot. F, Leaf magnified.

New record for Singapore and Malaya. Confirmed by M. Jacobs, Leiden. **Fig. 2.**

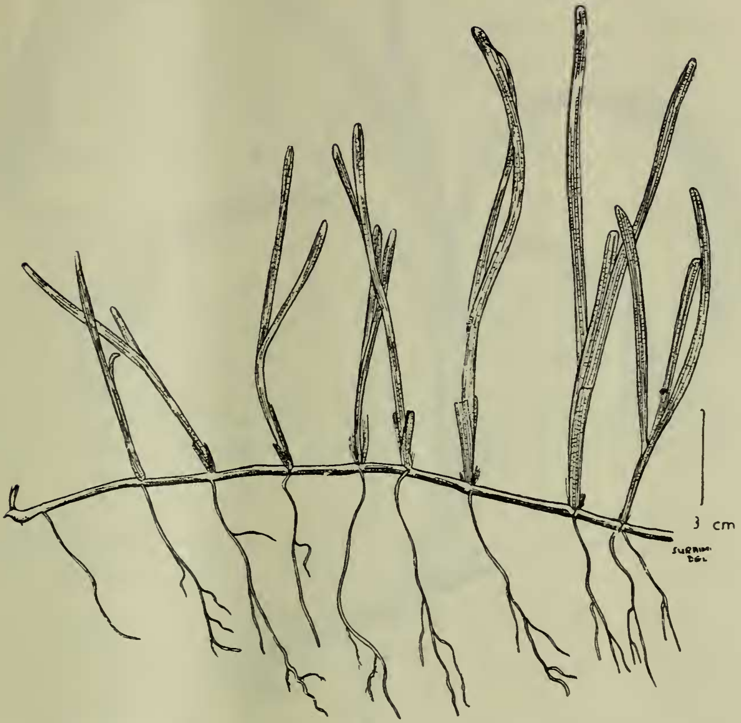

Fig. 2. *Cymodocea rotundata* (Ehrb. & Hempr.) Aschers & Schweinf. Leafy shoot.

C. serrulata (R. Br.) Aschers. & Magnus in Sitzb. Ges. Naturf. Fr. Berl. (1870) 84.

Tanah Merah Besar, *Sinclair S.F.N. 39508*, 14th March, 1953 and *S.F.N. 40536*, 6th March, 1955; north end of Kampong Pulau Samulun, *Sinclair S.F.N. 38581*, 31st July, 1949.

New record for Singapore and Malaya. Determined by M. Jacobs, Leiden. The Pulau Samulun specimen, *Sinclair S.F.N. 38581* was wrongly determined as *Thalassia hemprichii* and recorded in Gardens' Bull. Sing. 14 (1953) 35. *Thalassia hemprichii* however does occur in Singapore and is common at Telok Paku, *Sinclair S.F.N. 40526*, 17th February, 1955, determined by M. Jacobs and was also seen at Tanah Merah Besar in association with the other *Cymodocea* species and *Halophila spinulosa*. **Fig. 1A** and **B.** and **Fig. 3.**

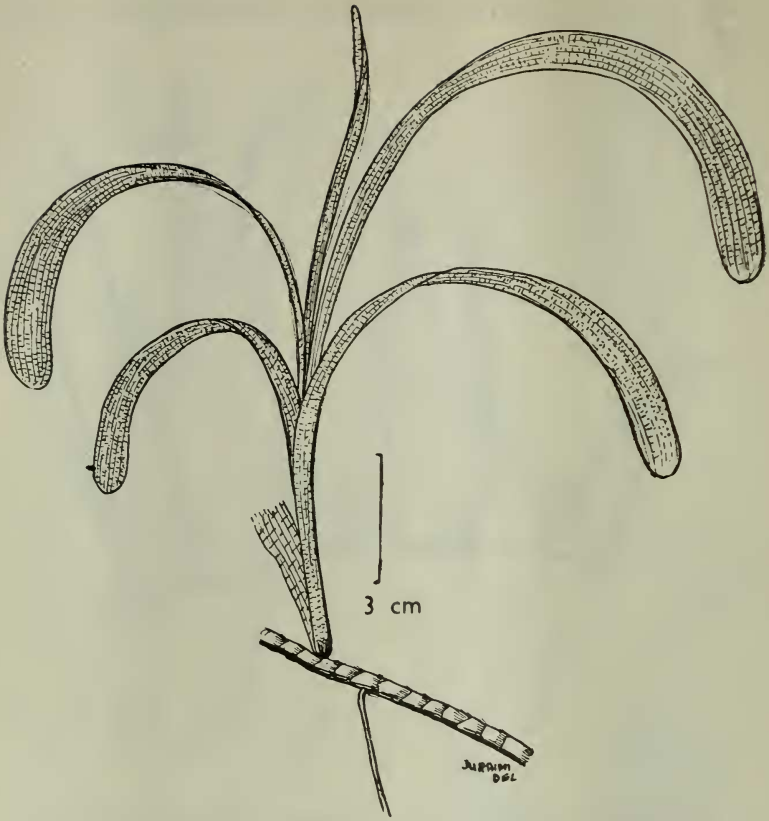

Fig. 3. *Thalassia hemprichii* Aschers.
Leafy shoot.

Cyperus sanguineolentus Vahl ssp. **cyrtostachys** (Miq.) Kern in Reinwardtia 3, 1 (1954) 57.

Marshy ground at fish ponds, off 9¾ mls. Changi Road (north side), *Sinclair S.F.N. 40538*, 10th March, 1955.

First record for Singapore. Previous records are from Kedah, Penang, Perak, Pahang, Selangor and Negri Sembilan. A weed of cultivation.

Sorghum propinquum (Kunth) Hitch. in Lign. Sci. Journ. 7 (1929) 249.

By canal at 6th mile between Bukit Timah Road and Dunearn Road, *Sinclair S.F.N. 40373*, 24th September, 1954.

Not previously recorded for Singapore. Introduced, now spreading and in quantity.

II—Rare Plants thought to be Extinct

Barclaya motleyi Hk. f. in Trans. Linn. Soc. 23 (1862) 157, T. 21.

In stream, road between No. 1 and No. 2 rifle ranges, Nee Soon, Seletar Forest, *Sinclair S.F.N. 40337*, 17th July, 1954.

Recorded in Ridley's Flora from Bukit Timah, *date 1892.* It has not been seen in Bukit Timah for many years. There is another record, *Ridley*, *date 1894* from Ang Mo Kio.

Brownlowia lanceolata Benth. in Journ. Linn. Soc. 5, Suppl. 2 (1861) 57.

This was mentioned in Gard. Bull. Sing. 14 (1953) 38 as being rare in Singapore and that it was probably extinct at Kranji (*Ridley 6294*). I am glad to say now that I have found it in quantity in Kranji Nature Reserve in 1954. It does not often flower and is easily overlooked. There is yet another record from Sungei Seletar, about ¼ mile east of Nee Soon, *Sinclair 39692*, 27th June, 1953.

Ardisia villosa Roxb. in Carey & Wall., Roxb. Fl. Ind. 2 (1824) 274; Ridley, F.M.P. 2 (1923) 251.

Synonym: A. vestita Wall. in Carey & Wall., Roxb. Fl. Ind. 2 (1824) 274 in obs. (1923) 251.

Seletar Forest beyond No. 2 rifle range, *Sinclair S.F.N. 40273*, 1st May, 1954.

Although common in parts of Malaya, there is a single sheet in Herb. Singapore, *Ridley 2809* from Pulau Ubin and no specimen from Singapore Island. Ridley mentions the Pulau Ubin specimen in his flora.

Alstonia spathulata Bl. Bijdr. 2 (1826) 1037.

Marshy ground by fish ponds, off 9¾ miles Changi Road (north side), *Sinclair 40541*, 10th March, 1955. Recorded in Ridley's Flora from Tanglin but there is no specimen in Herb. Singapore. Tanglin area has long since been well drained and it is extremely unlikely to occur there now. Three trees were seen at Changi Road. These are very old and have long ago been cut down to near the base of the trunk which is obscured by many coppice-shoots. What remain now are dense bushes up to 4 m. high, so the efforts of those trying to exterminate this last record from Singapore have not been entirely successful.

Artocarpus anisophylla Miq. Fl. Ind. Bat. Suppl. (1861) 422.

More localities in Singapore for this tree have been noted since Part I of this paper was written Gard. Bull. Singapore 14 (1953) 38 and it seems now to be not uncommon. It can still be found in the Gardens' Jungle. Other records are Bukit Timah Forest Reserve at the Fern Valley and in the MacRitchie Reservoir off Lornie Road.

Halophila spinulosa (R. Br.) Aschers. in Neumayer, Anleit. Wiss. Beob. (1875) 368.

Creeping in sandy, muddy substratum near low water, Tanah Merah Besar, *Sinclair S.F.N. 40535*, 6th March, 1955. Rare.

The only previous record is from near Pulau Tekong, *Henderson* and *Corner s.n.*, 16th June. 1929. In 1–8 metres below tide level on muddy bottom. **Fig. 1E** and **F.**

Rhynchospora glauca Vahl var. **chinensis** (Boeck.) C.B.Cl. in Hk. f., F.B.I. 6 (1893) 672.

Telok Bahru, *Sinclair S.F.N. 40523*, 17th February, 1955. Very rare. There are no recent collections in Herb. Singapore. It was collected by Ridley near the above locality in 1890 (*Ridley 1722*). Other localities in Singapore with dates are Balestier Plain, *Ridley 9144*, date 1898; Changi Beach, *Ridley*, date 1892. Blakan Mati, *Ridley 5791*, date 1892. It has been found in Perlis, Kedah, Trengganu, Pahang and Johore.

Cyathea glabra (Bl.) Copel. in Phil. Journ. Sci. 4C (1909) 35.

In swamp forest beyond target end of No. 1 rifle range, Nee Soon. Seletar Forest, *Sinclair S.F.N. 40370*, 19th September. 1954, rare.

It has not been collected in Singapore since 1907. The previous records are from Stagmount, Bukit Mandai and Bukit Timah.